Pushing the Envelope			
2007 Mathematics			
Curriculum Standards			
South Carolina Mathematics			
Grade 5			
Activity/Lesson	**State**	**Standards**	
History of Aviation Propulsion (pgs. 5-9)	SC	MA.5.5-5.6	Apply procedures to determine the amount of elapsed time in hours, minutes, and seconds within a 24-hour period.
Types of Engines (pgs. 11-23)	SC	MA.5.5-5.4	Apply formulas to determine the perimeters and areas of triangles, rectangles, and parallelograms.
Types of Engines (pgs. 11-23)	SC	MA.5.5-5.5	Through the process standards students will demonstrate an understanding of measurable attributes of objects, the units and systems of measurement, and apply tools and formulas to determine measurements.Apply strategies and formulas to determine the volume of rectangular prisms.
Types of Engines (pgs. 11-23)	SC	MA.5.5-5.8	Recall equivalencies associated with length, liquid volume, and mass: 10 millimeters = 1 centimeter, 100 centimeters = 1 meter, 1000 meters = 1 kilometer; 10 milliliters = 1 centiliter, 100 centiliters = 1 liter, 1000 liters = 1 kiloliter; and 10 milligrams = 1 centigram, 100 centigrams = 1 gram, 1000 grams = 1 kilogram.
Chemistry (pgs. 25-41)	SC	MA.5.5-5.4	Apply formulas to determine the perimeters and areas of triangles, rectangles, and parallelograms.
Chemistry (pgs. 25-41)	SC	MA.5.5-5.5	Through the process standards students will demonstrate an understanding of measurable attributes of objects, the units and systems of measurement, and apply tools and formulas to determine measurements. Apply strategies and formulas to determine the volume of rectangular prisms.
Chemistry (pgs. 25-41)	SC	MA.5.5-5.7	Through the process standards students will demonstrate an understanding of measurable attributes of objects, the units and systems of measurement, and apply tools and formulas to determine measurements. Understand the relationship between the Celsius and Fahrenheit temperature scales.
Chemistry (pgs. 25-41)	SC	MA.5.5-5.8	Recall equivalencies associated with length, liquid volume, and mass: 10 millimeters = 1 centimeter, 100 centimeters = 1 meter, 1000 meters = 1 kilometer; 10 milliliters = 1 centiliter, 100 centiliters = 1 liter, 1000 liters = 1 kiloliter; and 10 milligrams = 1 centigram, 100 centigrams = 1 gram, 1000 grams = 1 kilogram.

Physics and Math (pgs. 43-63)	SC	MA.5.5-5.4	Apply formulas to determine the perimeters and areas of triangles, rectangles, and parallelograms.
Physics and Math (pgs. 43-63)	SC	MA.5.5-5.5	Through the process standards students will demonstrate an understanding of measurable attributes of objects, the units and systems of measurement, and apply tools and formulas to determine measurements. Apply strategies and formulas to determine the volume of rectangular prisms.
Rocket Activity (pgs. 69-75)	SC	MA.5.5-5.4	Apply formulas to determine the perimeters and areas of triangles, rectangles, and parallelograms.
Rocket Activity (pgs. 69-75)	SC	MA.5.5-5.5	Through the process standards students will demonstrate an understanding of measurable attributes of objects, the units and systems of measurement, and apply tools and formulas to determine measurements.Apply strategies and formulas to determine the volume of rectangular prisms.
Pushing the Envelope			
2007 Mathematics			
Curriculum Standards			
South Carolina Mathematics			
Grade 6			
Activity/Lesson	**State**	**Standards**	
Physics and Math (pgs. 43-63)	SC	MA.6.6-1.6	Use correct and clearly written or spoken words, variables, and notations to communicate about significant mathematical tasks.
Physics and Math (pgs. 43-63)	SC	MA.6.6-2.6	Understand the relationship between ratio/rate and multiplication/division.
Physics and Math (pgs. 43-63)	SC	MA.6.6-3.5	Use inverse operations to solve one-step equations that have whole-number solutions and variables with whole-number coefficients.
Pushing the Envelope			
2007 Mathematics			
Curriculum Standards			
South Carolina Mathematics			
Grade 7			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	SC	MA.7.7-5.4	Recall equivalencies associated with length, mass and weight, and liquid volume: 1 square yard = 9 square feet, 1 cubic meter = 1 million cubic centimeters, 1 kilometer = 5/8 mile, 1 inch = 2.54 centimeters; 1 kilogram = 2.2 pounds; and 1.06 quarts = 1 liter.

Chemistry (pgs. 25-41)	SC	MA.7.7-5.4	Recall equivalencies associated with length, mass and weight, and liquid volume: 1 square yard = 9 square feet, 1 cubic meter = 1 million cubic centimeters, 1 kilometer = 5/8 mile, 1 inch = 2.54 centimeters; 1 kilogram = 2.2 pounds; and 1.06 quarts = 1 liter.
Physics and Math (pgs. 43-63)	SC	MA.7.7-2.5	Apply ratios, rates, and proportions to discounts, taxes, tips, interest, unit costs, and similar shapes.
Physics and Math (pgs. 43-63)	SC	MA.7.7-3.2	Analyze tables and graphs to describe the rate of change between and among quantities.
Physics and Math (pgs. 43-63)	SC	MA.7.7-3.3	Through the process standards students will demonstrate an understanding of proportional relationships. Understand slope as a constant rate of change.
Pushing the Envelope			
2007 Mathematics			
Curriculum Standards			
South Carolina Mathematics			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	SC	MA.8.8-5.3	Apply strategies and formulas to determine the volume of the three-dimensional shapes cone and sphere.
Types of Engines (pgs. 11-23)	SC	MA.8.8-5.4	Apply formulas to determine the exact (pi) circumference and area of a circle.
Types of Engines (pgs. 11-23)	SC	MA.8.8-5.5	Apply formulas to determine the perimeters and areas of trapezoids.
Chemistry (pgs. 25-41)	SC	MA.8.8-5.2	Explain the effect on the area of two-dimensional shapes and on the volume of three-dimensional shapes when one or more of the dimensions are changed.
Chemistry (pgs. 25-41)	SC	MA.8.8-5.3	Apply strategies and formulas to determine the volume of the three-dimensional shapes cone and sphere.
Chemistry (pgs. 25-41)	SC	MA.8.8-5.4	Apply formulas to determine the exact (pi) circumference and area of a circle.
Chemistry (pgs. 25-41)	SC	MA.8.8-5.5	Apply formulas to determine the perimeters and areas of trapezoids.
Physics and Math (pgs. 43-63)	SC	MA.8.8-3.5	Classify relationships between two variables in graphs, tables, and/or equations as either linear or nonlinear.
Physics and Math (pgs. 43-63)	SC	MA.8.8-5.3	Apply strategies and formulas to determine the volume of the three-dimensional shapes cone and sphere.
Physics and Math (pgs. 43-63)	SC	MA.8.8-5.4	Apply formulas to determine the exact (pi) circumference and area of a circle.
Physics and Math (pgs. 43-63)	SC	MA.8.8-5.5	Apply formulas to determine the perimeters and areas of trapezoids.
Rocket Activity (pgs. 69-75)	SC	MA.8.8-5.3	Apply strategies and formulas to determine the volume of the three-dimensional shapes cone and sphere.

Rocket Activity (pgs. 69-75)	SC	MA.8.8-5.4	Apply formulas to determine the exact (pi) circumference and area of a circle.
Rocket Activity (pgs. 69-75)	SC	MA.8.8-5.5	Apply formulas to determine the perimeters and areas of trapezoids.
Pushing the Envelope			
2007 Mathematics			
Curriculum Standards			
South Carolina Mathematics			
Grades 9-12 (Elementary Algebra)			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	SC	MA.9-12.EA-2.6	Carry out a procedure to evaluate an expression by substituting a value for the variable.
Chemistry (pgs. 25-41)	SC	MA.9-12.EA-2.6	Carry out a procedure to evaluate an expression by substituting a value for the variable.
Physics and Math (pgs. 43-63)	SC	MA.9-12.EA-2.6	Carry out a procedure to evaluate an expression by substituting a value for the variable.
Physics and Math (pgs. 43-63)	SC	MA.9-12.EA-3.2	Use function notation to represent functional relationships.
Physics and Math (pgs. 43-63)	SC	MA.9-12.EA-3.7	Carry out a procedure to solve literal equations for a specified variable.
Physics and Math (pgs. 43-63)	SC	MA.9-12.EA-4.7	Carry out procedures to solve linear equations for one variable algebraically.
Physics and Math (pgs. 43-63)	SC	MA.9-12.EA-4.8	Carry out procedures to solve linear inequalities for one variable algebraically and then to graph the solution.
Physics and Math (pgs. 43-63)	SC	MA.9-12.EA-5.7	Apply the concept of slope as a rate of change to solve problems.
Physics and Math (pgs. 43-63)	SC	MA.9-12.EA-5.12	Analyze given information to write a linear inequality in one variable that models a given problem situation.
Pushing the Envelope			
2007 Mathematics			
Curriculum Standards			
South Carolina Mathematics			
Grades 9-12 (Intermediate Algebra)			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	SC	MA.9-12.IA-6.3	Carry out a procedure to write a formula for the nth term of an arithmetic or geometric sequence when given at least four consecutive terms of the sequence.
Types of Engines (pgs. 11-23)	SC	MA.9-12.IA-6.4	Carry out a procedure to write a formula for the nth term of an arithmetic or geometric sequence when given at least four terms of the sequence.
Chemistry (pgs. 25-41)	SC	MA.9-12.IA-6.3	Carry out a procedure to write a formula for the nth term of an arithmetic or geometric sequence when given at least four consecutive terms of the sequence.

Chemistry (pgs. 25-41)	SC	MA.9-12.IA-6.4	Carry out a procedure to write a formula for the nth term of an arithmetic or geometric sequence when given at least four terms of the sequence.
Physics and Math (pgs. 43-63)	SC	MA.9-12.IA-6.3	Carry out a procedure to write a formula for the nth term of an arithmetic or geometric sequence when given at least four consecutive terms of the sequence.
Physics and Math (pgs. 43-63)	SC	MA.9-12.IA-6.4	Carry out a procedure to write a formula for the nth term of an arithmetic or geometric sequence when given at least four terms of the sequence.
Rocket Activity (pgs. 69-75)	SC	MA.9-12.IA-6.3	Carry out a procedure to write a formula for the nth term of an arithmetic or geometric sequence when given at least four consecutive terms of the sequence.
Rocket Activity (pgs. 69-75)	SC	MA.9-12.IA-6.4	Carry out a procedure to write a formula for the nth term of an arithmetic or geometric sequence when given at least four terms of the sequence.